Socioeconomic Benefits and Impacts Assessments

Wildland Fires Team Meeting Feb. 28 – March 2, 2017

Socioeconomic Impacts

The Program conducts impact analyses of selected projects to assess the value and benefits (in social and economic terms) from uses of Earth obs. to inform decisions and associated actions.

- Strategically important for scientific community to have skills & abilities (or know how to access them) to document and communicate impacts
- Part of effort is bridging the social sciences and economic fields with the Earth science and physical science fields.

Terminology Transfer in Interdisciplinary Work

Economics & Policy Analysis

- Marginal Cost
- Shadow Price
- Discount Rate
- Contingent Valuation
- Cobb Douglas Function
- Revealed Preference
- Marginal Utility
- Price Elasticity
- Net Present Value

Earth Science, Remote Sensing, GIS

- Spectroradiometer
- Synthetic Aperture Radar
- Normalized Difference Vegetation Index
- Nearest Neighbor
- Supervised Classification
- Passive Microwave
- Backscatter
- Orthorectification
- Data Assimilation

Socioeconomic Impacts

NASA
Earth Science

A Primer:

Inform the Earth science community and project teams about the language, key principles, techniques, and applications of socioeconomic impact analyses.

Available on Applied Sciences website

Socioeconomic Impacts

Impact Assessments on Applications Projects

Conducted ~10 impact assessments

Support a collaboration between Economist & Earth Scientists on the societal value of a climate observing system

As augmentations to existing grants, the Program sponsored impact analyses to assess the value and benefits (in social and economic terms) from uses of Earth observations:

» 3 Water Resources Projects
» 2 Health & AQ Projects
» 4 Wildfires Projects

ROSES-15 A.45: Socioeconomic Benefits

Proposals to develop, implement, and manage a program of activities for the articulation of socioeconomic benefits of Earth science applications. Award is for a consortium of organizations. Two parts:

» Impact Assessments: Methods & Examples

» Capacity Building: Familiarity in Earth Science community on terms & concepts

Selection:
Valuation of Applications Benefits Linked with Earth Science Consortium (VALUABLES)

PI Organization: Resources for the Future

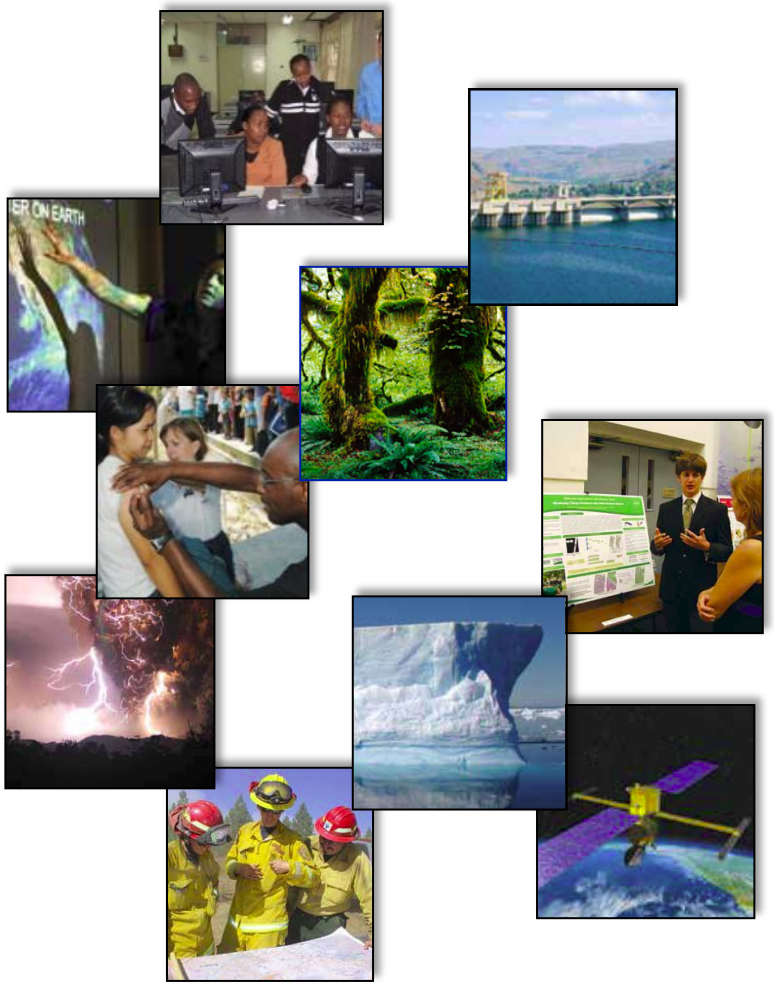
PI: Yusuke Kuwayama
(Replacement for Molly Macauley)

Socioeconomic Impacts

NASA
Earth Science

Impact Assessments on Wildland Fire Projects

Socioeconomic Impact Analysis of Linking Remote Sensing and Process-Based Hydrological Models to Improve Post-Fire Remediation Efforts	>>	Wildland Fire Behavior and Risk Forecasting
Using Earth Observations to Assess the Socioeconomic Impact of Human Decision Making During the Suppression of a Wildland Fire	>>	RECOVER
Evaluating the Socioeconomic Impacts of Rapid Assembly and Deployment of Geospatial Data in Wildfire Emergency Response Planning	>>	Process-based hydrologic models; GeoWEPP
Quantifying Potential Economic Benefits of Incorporating Gridded Fuel Moisture and Weather Data into Wildland Fire Decision Support in the Northern Rocky Mountains	>>	TOPOFIRE



Kimberly Rollins

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Project Portfolio: 9 Phase II Projects

NASA ESD Applied Sciences: Wildland Fire Phase II (ROSES-11 A.35)			
PI	**PI Org**	**Title**	**Associate PM**
Weber	Idaho State University	RECOVER: Rehabilitation Capability Convergence for Ecosystem Recovery	Ambrosia
Schroeder	University of Maryland	Development and Application of Spatially Refined Remote Sensing Active Fire Data Sets in Support of Fire Monitoring, Management and Planning	Soja
Howard *Joshua Picotte*	SAIC (USGS-EROS)	Utilization of Multi-Sensor Active Fire Detections to Map Fires in the U.S.: The Future of Monitoring Trends in Burn Severity (MTBS)	Soja
Peterson	USGS EROS	Enhanced Wildland Fire Management Decision Support Using LIDAR-Infused LANDFIRE Data	Ambrosia
Vogelman	USGS-EROS	Improving National Shrub and Grass Fuels Maps Using Remotely Sensed Data and Biogeochemical Modeling to Support Fire Risk Assessments	Ambrosia
Miller	MTRI	Linking Remote Sensing and process-Based hydrological Models to Increase Understanding of Wildfire Effects on Watersheds and Improve Post-Fire remediation Efforts	Ambrosia
Holden	USFS-RMRS	A Prototype System for Predicting Insect and Climate-Induced Impacts on Fire Hazard in Complex Terrain	Ambrosia
Tabor	Conservation International	An Integrated Forest and Fire Monitoring and Forecasting System for Improved Forest Management in the Tropics	Soja
Schranz	NOAA /ESRL	Wildland Fire Behavior and Risk Prediction	Ambrosia

Socioeconomic Impacts

University of Nevada, Reno

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